

Remarks/Arguments

Claim Summary

By this Amendment, claim 1 has been amended to include the subject matter of now-cancelled dependent claim 7. Further, as requested by the Examiner, missing claim 31 has been added to the Listing of the Claims, and the second occurrence of claim 47 and claim 48 have been renumbered to claims 48 and 49, respectively.

Claims 1, 3-6, 8-24 and 29-49 are now pending in the application, among which claims 3, 5, 10, 11, 16-20, 22-24 and 29-49 have been withdrawn from consideration.

35 U.S.C. ¶103 – Bhardwaj et al. in view of Shintani et al. and/or Amemiya

Claims 1, 4 and 6 were rejected under 35 U.S.C. ¶103 as being unpatentable over Bhardwaj et al. in view of Shintani et al. and/or Amemiya. However, this rejection has been rendered moot by the incorporation of claim 7 into independent claim 1.

35 U.S.C. ¶103 – Bhardwaj et al. in view of Ohkawa et al. and/or Kin and/or Ribeiro and/or Maeno et al.

Claims 1, 4, 6-9, 12-13 and 21 were rejected under 35 U.S.C. ¶103 as being unpatentable over Bhardwaj et al. in view of Ohkawa et al. and/or Kin and/or Ribeiro and/or Maeno et al.

The Examiner acknowledges that Bhardwaj et al. fail to teach attenuations means for partially reducing ion flux from the plasma as recited in the present claims. However, the Examiner further alleges:

“Ohkawa et al teach a plasma processing apparatus (Fig. 1) including a magnet 30 generating magnetic field parallel to the surface of the substrate for insulating the substrate 26 from free electrons in the plasma. By applying appropriate potential on the substrate or an inside electrode 40, ion etching/deposition or neutral etching processes, respectively, can be performed (column 7, line 46 through column 8, line 2; and abstract and column 6, line 19 through column 8, line 2).”

Contrary to the Examiner's apparent suggestion, the ion trap of Ohkawa substantially removes all the ions from the plasma. That is, at column 7, lines 46-51, Ohkawa states:

“... the magnet 30 creates a magnetic field 32 (as shown in figure 1) that is oriented with flux lines which are substantially parallel to the surface 28 of substrate 26. ... this particular orientation of the magnetic field 32 insulates the substrate 26 from free electrons in the plasma.”

Thus, it is clear that Ohkawa not teach an attention means as recited in claim 1. Specifically, Ohkawa does not teach:

“attenuation means comprising a magnetic portion for partially reducing the ion flux from the plasma to obtain attenuated plasma in which sufficient ions are available to selectively remove the passivation layer during the etch step of each cycle”

Noting that the remaining references also fail to teach the claimed attenuation means, Applicants respectfully contend that claim 1, and the claims dependent thereon, would not have been obvious to one of ordinary skill in the art in view of the cited references.

Conclusion

No other issues remaining, reconsideration and favorable action upon the claims now pending in the application are respectfully requested.

Respectfully submitted,

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